

REMARKS

Claims 1, 13, 17, 22, 25, 28, 31, 34, 43, 45, 50, 60 and 63 have been amended. Claims 85-86 have been withdrawn. Claims 1-84 remain pending in this application.

Claims 22 and 63 have been amended to correct typographical errors.

Claims 1-7, 9 and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,818,357 to Case et al. ("Case") in view of U.S. Patent No. 5,534,711 to Ovshinsky et al. ("Ovshinsky"). The rejection is respectfully traversed.

Claim 1 has been amended to recite: "maintaining [the] silver selenide target at a temperature of less than about 350° C during [the] sputtering process to form a silver selenide film which comprises both alpha silver selenide and beta silver selenide." As explained in the specification at ¶0048:

"Silver selenide (e.g. Ag₂Se) is well known for its low temperature phase transition point of 406 K (about 130° C.). At temperatures below 406 K, Ag₂Se forms an orthorhombic structure, known as the "beta phase." At temperatures above 406 K (about 133° C.), Ag₂Se undergoes a structural change in which the Se forms a body-centered cubic sublattice, while the Ag undergoes a melting transition. In this so-called "alpha phase" or "superionic phase," the Ag ions exhibit liquid-like diffusion."

In order for the silver selenide film to comprise both alpha and beta phase silver selenide, the temperature of the silver selenide must be able reach a temperature above about 133° C and a temperature below about 130° C during the sputtering process. Case teaches heating the substrate to 450° C +/- 20°. At this temperature it will be impossible for the silver selenide to form in the beta stage – it will instantly transition to the alpha phase upon contact with the substrate, which is heated far above the transition temperature. As only the alpha phase will be formed, Case does not teach all aspects of claim 1. Claim 1 is therefore allowable over Case.

Ovshinsky is cited for the purpose of teaching the use of silver selenide and fails to cure the deficiencies of Case. Claim 1 is therefore allowable over the combination of Case and Ovshinsky.

Claims 2-7, 9 and 12 depend from claim 1 and are allowable over the combination of Case and Ovshinsky along with claim 1 for at least the reasons provided above as well as on their own merits. Accordingly, Applicants respectfully request the rejection be withdrawn and the claims allowed.

Independent claims 13, 17, 25, 28, 31, 34, 43, 45, 50 and 60 have been amended to recite similar limitations to the above-described limitation of claim 1. Independent claims 77 and 81 already recite a similar limitation. All of these claims stand rejected under 35 U.S.C. §103(a) as being unpatentable over Case in view of various references. None of the references cure the above identified deficiency of Case. Independent claims 13, 17, 25, 28, 31, 34, 43, 45, 50, 60, 77 and 81 are therefore allowable over the various combinations of references with Case. Claims 8, 10-11, 14-16, 18-24, 26-27, 29-30, 32-33, 35-42, 44, 46-49, 51-59, 61-76, 78-80 and 81-84 all depend from independent claims 1, 13, 17, 25, 28, 31, 34, 43, 45, 50, 60, 77 and 81 and are allowable along with the independent claims for at least the reasons provided above as well as on their own merits. Accordingly, Applicants respectfully request the rejection be withdrawn and the claims allowed.

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

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Respectfully submitted,

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